

## CLAIMS

- 1           1.     A method for determining the performance of a vehicle's audio system  
2     drivers in relation to predetermined baselines wherein said method obviates the need  
3     to adjust audio system parameters during testing, the system drivers including left  
4     front and rear, and right front and rear drivers, said method comprising the steps of:  
5                 presetting the vehicle's audio system to a predetermined station;  
6                 presetting audio system output to be balanced and centered among the system  
7     drivers;  
8                 broadcasting an RF signal for exciting at least one of said system drivers;  
9                 detecting an output from the system drivers;  
10                decoding the detected output from the system drivers; and  
11                analyzing the output with respect to the baseline performance to determine the  
12     performance of each of the system drivers.
- 1           2.     The method of claim 1 wherein the broadcast signal is operative to  
2     first only excite the left front and rear drivers and then only excite the right front and  
3     rear drivers.
- 1           3.     The method of claim 1 wherein said RF signal is provided by a  
2     computer controlled RF generator.

1           4.     The method of claim 3 wherein said RF signal is varied over time from  
2     120 Hz to 17 kHz.

1           5.     The method of claim 1 wherein at least one microphone is used to  
2     detect said response from the system drivers.

1           6.     The method of claim 1 further comprising disposing a first microphone  
2     near the front of the vehicle, and a second microphone near the rear of the vehicle.

1           7.     The method of claim 6 wherein analyzing the output includes  
2     comparing timelines relative to when the outputs from the system drivers were  
3     detected by the first and second microphones to timelines of the predetermined  
4     baselines.

1           8.     The method of claim 7 wherein the first microphone is turned off when  
2     the second microphone is turned on.

1           9.     A method for determining the performance of a vehicle's audio system  
2     drivers in relation to predetermined baselines wherein said method obviates the need  
3     to adjust audio system parameters during testing, the system drivers including left

4 front and rear drivers, and right front and rear drivers, said method comprising the  
5 steps of:

6           presetting the vehicle's audio system to a predetermined station;

7           presetting audio system output to be balanced and centered among the system  
8 drivers;

9           broadcasting an RF signal for exciting at least one of said system drivers;

10          detecting an output from the system drivers wherein a first microphone is  
11 disposed near the front of the vehicle, and a second microphone is disposed near the  
12 rear of the vehicle;

13          decoding the output from the system drivers; and

14          analyzing the output with respect to the baseline performance to determine the  
15 performance of each of the system drivers.

1           10.    The method of claim 9 wherein said broadcast signal is operative to  
2 first only excite the left front and rear drivers and then only excite the right front and  
3 rear drivers.

1           11.    The method of claim 10 wherein analyzing the output includes  
2 comparing timelines relative to when the outputs from the system drivers were  
3 detected by the first and second microphones to timelines of the predetermined  
4 baselines.

1           12.    The method of claim 9 wherein said RF signal is provided by a  
2   computer controlled RF generator.

1           13.    The method of claim 12 wherein said RF signal is varied over time  
2   from 120 Hz to 17 kHz.

14.    A method for determining the performance of a vehicle's audio system  
drivers in relation to predetermined baselines wherein said method obviates the need  
to adjust audio system parameters during testing, the system drivers including left  
front and rear drivers, and right front and rear drivers, said method comprising the  
steps of:

          presetting the vehicle's audio system to a predetermined station;

          presetting audio system output to be balanced and centered among the system  
drivers;

          disposing a first microphone near the front of the vehicle and a second  
microphone near the rear of the vehicle;

          first broadcasting a composite signal operative to only excite said right front  
and rear system drivers and then broadcasting a composite signal operative to only  
excite said left front and rear system drivers;

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detecting an output from the system drivers using the first and second microphones;

decoding the output from the system drivers; and

analyzing the output from the system drivers with respect to the predetermined baselines to determine the performance of each of the system drivers.

15. An apparatus for determining the performance of a vehicle's audio system drivers in relation to predetermined baselines wherein said method obviates the need to adjust audio system parameters during testing, the system drivers including left front and rear, and right front and rear drivers, said apparatus comprising:

a first microphone disposed near a front of the vehicle for detecting output signals from at least one of the system drivers;

a second microphone disposed near the rear of the vehicle for detecting output signals from at least one of the system drivers;

an RF generator operative to broadcast predetermined audio signals to the vehicle audio system; and

a computer in communication with said first and second microphones and said RF generator whereby said computer is operative to control the RF generator to broadcast said predetermined audio signals and further operative to receive, decode and analyze said output signals detected by said first and second microphones with respect to the predetermined baselines.